

Notice of Allowability	Application No.	Applicant(s)	
	09/331,763	NISHIDA, KAZUTO	
	Examiner	Art Unit	
	Joseph C. Merek	3727	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 1/27/05.
2. ☒ The allowed claim(s) is/are 46,47,49,51-53,57,83-85,88,90-92 and 118-131.
3. ☒ The drawings filed on 25 June 1999 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|---|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input checked="" type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date <u>2/22/05</u> . |
| 3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date <u>7/21/04</u> | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

Joseph C. Merek
 Primary Examiner
 Art Unit: 3727

DETAILED ACTION

In the previous office action claims 46 and 57 was rejected over Murakami in view of Tsukagoshi et al '542 and Tang et al. The examiner has withdrawn this rejection. Murakami teaches securing a chip to a substrate with a sealing resin without particles where the bump electrode on the chip contacts a specific area of the substrate. The references to Tsukagoshi et al and Tang et al teach securing chips to substrates adhesive resins with particles in the resin where the electrodes do not contact the substrate but make contact with the substrate through the particles. The particles in the secondary references would have prohibited the contact required in the primary reference. To combine the teachings of these references would have required hindsight. Claims 46 and 57 have been allowed. Claims 47, 125, and 126 have been allowed since they depend from claim 46. Claim 130 has been allowed since it depends from claim 57.

In the previous office action claims 49 and 53 was rejected over Murakami in view of Tsukagoshi et al '542, Tang et al and Matsumoto et al '069. The examiner has withdrawn these rejections. As noted above to combine the first three references would have required hindsight. Claims 49 and 53 have been allowed. Claims 127 and 129 have been allowed since they depend from claims 49 and 53 respectively.

In the previous office action claims 51 and 91 were rejected over Murakami in view of Tsukagoshi et al '542 and Gruppen-Shemansky et al '761. The

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examiner has withdrawn these rejections. Murakami teaches securing a chip to a substrate with a sealing resin without particles where the bump electrode on the chip contacts a specific area of the substrate. The reference to Tsukagoshi et al and Gruppen-Shemansky et al teach securing chips to substrates adhesive resins with particles in the resin where the electrodes do not contact the substrate but make contact with the substrate through the particles. The particles in the secondary references would have prohibited the contact required in the primary reference. To combine the teachings of these references would have required hindsight. Claims 51 and 91 have been allowed. Claims 128 and 131 have been allowed since they depend from claim 51 and claim 91 respectively.

In the previous office action claim 52 was rejected over Murakami in view of Tsukagoshi et al '542 and Gruppen-Shemansky et al '761 and Matsubara et al. The examiner has withdrawn this rejection. As noted above to combine the teachings of the first three references would have required hindsight. Claim 52 has been allowed. Claims 83-85, 88, 90, 92, and 118-124 have been allowed since they all depend from claim 52.

In the previous office action claim 46 was rejected over Eldering (DE 195 35 282) in view of Tsukagoshi et al '542. The reference to Eldering requires contact of the bumps with specific locations on the substrate. The resin does not have any particles. To employ a particle laden adhesive such as Tsukagoshi et al '542 would prevent the required contact. To combine these references would have required hindsight.

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The reference to Belke, Jr. et al (US 6,326,241) is cited for teaching a similar process.

The reference has not been applied as the instant invention is a 371 of a PCT filed on 12/26/97. The filing date of the reference is 12/29/97.

EXAMINER'S AMENDMENT

An extension of time under 37 CFR 1.136(a) is required in order to make an examiner's amendment which places this application in condition for allowance. During a telephone conversation conducted on February 22, 2005, Joseph M. Gorski requested an extension of time for a third MONTH(S) and authorized the Director to charge Deposit Account No. 23-0975 the required fee of \$570.00 for this extension and authorized the following examiner's amendment. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

The application has been amended as follows:

Claim 118 has been replaced with the following amended claim:

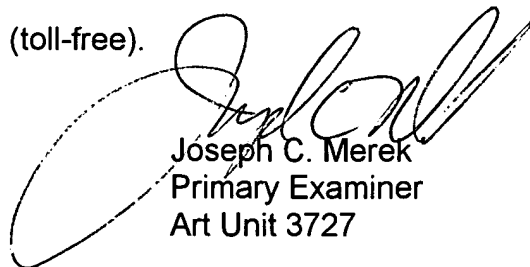
118. The method of according to claim 52, wherein softening to flow up to an edge of said electronic component, and then hardening, with heat, said thermosetting resin, while achieving mutual pressing between said electronic component and said circuit board, comprises using a heated bonding tool to perform the mutual pressing.

Claim 123, line 4, "a" has been replaced with --said--.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph C. Merek whose telephone number is 571 272-4542. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lee Young can be reached on (571) 272-4549. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Joseph C. Merek
Primary Examiner
Art Unit 3727